THE SOURCE

NEWSLETTER OF THE NHDES DRINKING WATER SOURCE PROTECTION PROGRAM
ON THE WEB AT WWW.DES.STATE.NH.US/DWSPP

SPRING 2001

Results of Dye Studies on Water Supply Rivers

Preliminary results of dye studies conducted by the U.S. Geological Survey (USGS) show a wide range of water velocities on 12 New Hampshire water supply rivers during flood conditions. The dye studies were performed to provide information for spill response planning and to help DES determine critical river reaches where it could focus its inventory of threats under the Source Water Assessment Program.

The work involved releasing non-toxic dye under low-flow and average-flow conditions and then monitoring the timing and concentration of dye at the water supply intake. USGS hydrologists then estimated what the travel time of the dye would be during the mean annual flood. Estimated flood velocities in the reaches above intakes ranged from 1.3 feet per second (fps) for the Salmon Falls River to 10.3 fps on the East Branch of the Pemigewasett (see table at right). The current results are provisional, meaning the river discharge data upon which the estimates are based have not yet been corrected for possible measurement error, and therefore are subject to revision.

The results will be used in DES's Source Water Assessment Program to begin to define Hydrologic Areas of Concern (HACs) upstream of each intake. For example, on the Oyster River, the velocity of 1.8 fps at mean annual flood works out to 7.4 miles in 6 hours. DES will define the HAC in terms of this distance (see map pg. 4) and will perform a windshield survey in the area to serve as the basis for the Source Water Assessment. On rivers such as the

Continued on pg. 4

Provisional Results of Dye Tracer Study

Water Supply Intake Location	Estimated velocity (fps) at Mean Annual Flood
Ammonoosuc River	7.95
Androscoggin River	incomplete
Connecticut River	9.23
Contoocook River	2.29
Exeter River	1.82
Lamprey River (Newmarket intake)	0.70
Lamprey River (UNH intake)	2.05
Mascoma River	5.77
Merrimack River	5.37
Oyster River	1.80
Pemigewasset River (East Branch)	10.33
Piscassic River	1.74
Salmon Falls River	1.31
Sugar River	5.99

DWSPP Hosts Successful Source Water Protection Workshop

More than 75 people gathered in the DES auditorium on January 22, 2001 to learn about successful source water protection measures that have been used in New Hampshire. The workshop was sponsored by DES, New England Water Works Association, and US EPA - Region 1 in an effort to familiarize participants with the source water assessment reports and resources for source protection.

The day's agenda included a session on the source water assessment reports, case study breakout sessions, and several panel presentations by water suppliers and agency staff focusing on methods to better identify and manage potential threats and funding and resources available for these projects.

Workshop evaluations revealed that the majority of participants were pleased with the seminar and felt it was a good use of their time. Several participants suggested that this type of workshop should be held again, perhaps with a focus on the needs of small systems. DWSPP staff will take this into consideration when planning future events.

Unable to attend the January workshop? Never fear! We have posted proceedings of that day on our website. Visit us at www.des.state.nh.us/dwspp/proceedings.htm to view a synopsis of each speaker and see handouts and presentations that were given that day.

Spotlight on... LifeWise Community Projects

In 1999, LifeWise Community Projects, Inc. received a Source Water Protection Grant from DES to conduct a statewide drinking water education program for students in grades 4-6. The program focused on teaching students about the school's or town's drinking water source and its protection, as well as about watersheds, groundwater, surface water, and pollution. During the presentations, students received educational materials that they could share with their parents, and teachers received a Town Resource Map, which shows all the drinking water supply sources and land uses within their town. One of the more popular parts of the program was the groundwater model demonstration, which made groundwater movement and contamination flow come alive.

Following each demonstration, the local conservation commissions were contacted and encouraged to include newly educated students in local water-related fieldwork and projects. The program prepared students and faculty with the knowledge to spread the word about source water protection and take action at home and school to prevent contamination.

A total of 116 demonstrations were conducted for over 2,600 students. With the success of the program, LifeWise will receive another Source Water Grant this year to continue the program. If you know of a school that would welcome a drinking water protection presentation by LifeWise volunteers, please contact Bruce Montville at 335-4700 or e-mail lifewise@nh.ultranet.com.

LifeWise is a non-profit, volunteer service organization based in Hampton. Its mission is to activate citizen participation toward the advancement of community service and civic affairs.

Removing Toxics From Schools

The New England regional office of the US Environmental Protection Agency is reaching out to secondary schools to urge the removal of toxic hazards. High school science rooms, art rooms, shop rooms, and supply closets hold a surprising array of chemicals, some of which are toxic, extremely flammable, or cancer-causing, according to EPA. Citing an actual incident in New Hampshire where a school had to be closed for a five-day cleanup after a student dropped a jar of elemental mercury, EPA is sending a series of letters to school superintendents urging them to address toxic materials. EPA is offering schools help with conducting inventories of toxics; recognizing hazards; switching to less toxic alternatives; and improving storage, handling, and disposal practices. For more information on EPA's Toxics Free Schools Initiative, contact EPA at (617) 918-1847 or DES at 271-2956.

Agriculture and DES Aim to Help Farmers Keep Water Clean

When a shoreline survey in 1999 found cattle standing in a water supply river, DES and N.H. Department of Agriculture, Markets and Food (DAMF) began looking for a way to create a small grants program to address such problems. House Bill 105 would do just that. By earmarking 20 percent of fertilizer registration fees and fertilizer inspection fees, the bill would provide approximately $20,000 per year for an Agricultural Nutrient Management Program at DAMF. The new program would make grants to help farm and livestock owners implement best management practices to minimize water quality impacts from fertilizers, compost, and manure. At press time, the bill was being considered by the House Finance Committee. To track the bill's progress, visit www.gencourt.state.nh.us/ie/billstatus/quickbill.html.

The Source, the quarterly newsletter of DES's Drinking Water Source Protection Program, is published by:

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Printed on Recycled Paper

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Closer To Home

Information for well owners and public water system customers

What you Should Know about Household Hazardous Waste

Did you know that the average household throws 15.5 pounds of hazardous materials into the trash each year? And even more is dumped down the drain, on the ground, or into storm drains. Key to this problem is that many people do not even realize the extent of hazardous materials in their homes or proper ways to dispose of them. Look in any storage cabinet in the typical home and you will find products such as paint thinners, solvents, drain openers, oven cleaners, polishes, waxes, pesticides, cleaning agents, and spent automotive products that can all be considered hazardous.

Once released to the environment, these products may contaminate ground and surface waters, polluting drinking water and killing fish and wildlife. Thus, safe disposal options and education about the harmfulness of these products is important for protecting drinking water.

The safest disposal option is to bring these products to a local household hazardous waste (HHW) collection. Free collections are available once or twice a year in most communities to residents of participating towns (see spring schedule below). Towns not listed below may host a collection day at another time of year. Towns that would like to organize a collection day should contact DES's Household Hazardous Waste Program at 271-2047 or hhw@des.state.nh.us or see the website at www.des.state.nh.us/hhw to learn about available grant funds and educational resources.

Spring 2001 HHW Collection Schedule

For exact location and time for dropoff, visit DES's HHW schedule at www.des.state.nh.us/hhw/hhwevent.htm or call your town office.

3/17 - 6/23: Acworth, Alstead, Chesterfield, Fitzwilliam, Harrisville, Hinsdale, Keene, Marlborough, Marlow, Richmond, Roxbury, Swanzey, Troy, Winchester

4/7 - 6/2: Amherst, Brookline, Hollis, Hudson, Litchfield, Merrimack, Milford, Mt Vernon, Nashua, Pelham, Windham

4/28: Derry, Londonderry

4/28: Portsmouth, Greenland, Newington

5/5: Cornish, Hanover, Lebanon, Lyme, Plainfield

5/12: Dover, Madbury

5/12: Manchester

5/12: Hampton, Hampton Falls, Kensington, New Castle, N. Hampton, Rye, S. Hampton

5/19: New Boston

6/2: Littleton, Bethlehem, Monroe, Easton, Franconia, Landaff, Lisbon

6/2: Concord

6/2: Berlin, Dummer, Errol, Gorham, Jefferson, Milan, Northumberland, Randolph, Stark

6/2: Goffstown

6/9: Rindge

6/9: Somersworth

A Brief Update on DWSPP's Grant Programs

Local Water Protection Grants

The Drinking Water Source Protection Program received 20 grant applications in November 2000. Seventeen requests, totalling $223,669, were approved and are being submitted to Governor and Council. Some of the projects for this year include reclassifying groundwater for the City of Dover, relocating a septic system outside of the sanitary radius for the Belknap Heights Water System Association, reviewing land use controls within the Exeter River Watershed, and identifying remediation options for developed subwatersheds within the Pennichuck Ponds Watershed.

The next round of grants will be due this fall. For information, contact Johnna McKenna at 271-7017 or visit www.des.state.nh.us/dwspp/grants.htm.

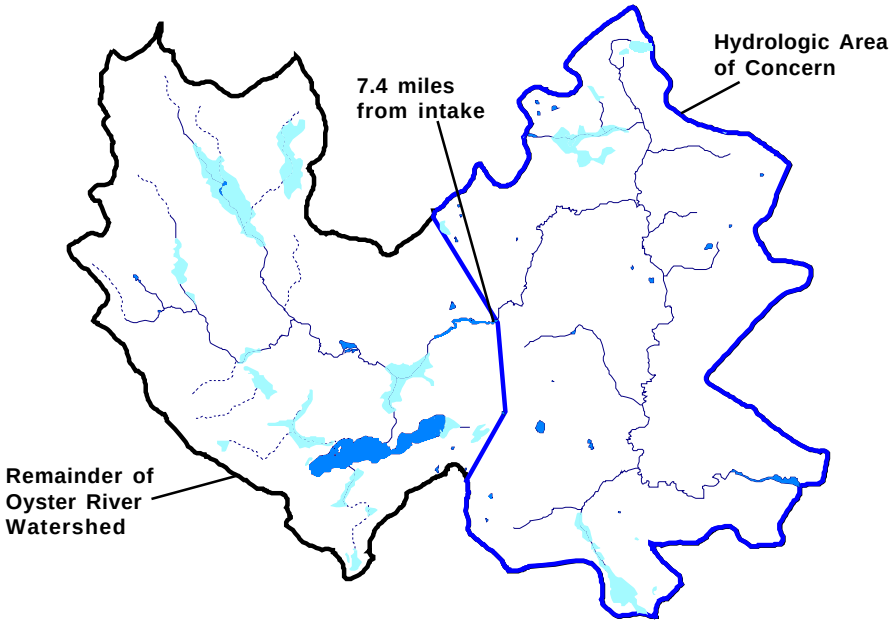
Water Supply Land Grants

Six communities successfully met the application deadline of January 1, 2001. It appears that Barrington, Epping, Nashua, North Hampton, Portsmouth, and Raymond will receive the grant amounts they requested. There are some program requirements they need to complete including appraisals, surveys, and stewardship plans to receive their grant award. The funding for the April application deadline is uncertain. If you have project ideas and want to prepare for future grant availability contact Sherry Godlewski at 271-0688.

Dye Studies continued from pg. 1

Sugar, where 5.99 fps translates to 24.5 miles in 6 hours, the HAC will have to be adjusted to make the windshield survey manageable but still adequate for the Source Water Assessment. In such cases, DES will consult with the water supplier in defining the HAC.

When the data analysis is complete, the results will provide information on water velocity, travel time, and pollutant dispersion (for soluble pollutants) under a wide variety of flow conditions. Water suppliers will be able to use this information for spill response planning. For example, a water system may wish to concentrate its planning efforts in the area where there would be 4 hours or less of response time during flood conditions. In the event of a contaminant spill affecting the river, emergency response personnel or the water supplier could check the USGS web site for real-time river stage information and then use the study results to look up the estimated travel time of the contaminant (leading edge, peak concentration, and trailing edge) to the water supply intake. That information could guide spill response efforts as well as the water supplier's decision to shut down and reopen the intake. Complete results of the study are expected later this year.



Delineation of Oyster River watershed and Hydrologic Area of Concern.

Ninth Annual NH Drinking Water Week Festival!

Students from around the state will gather at the National Guard Armory in Franklin, NH on May 9, 2001 to celebrate National Drinking Water Week (May 6-12). Activities for students will focus on learning about drinking water and what every person can do to protect it.

If your system or organization would like to participate by putting up a display or running an activity or if you know of a class that would like to attend, contact Nicole Clegg at 271-4071 or nclegg@des.state.nh.us.

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